



ATARI COMPUTER ENTHUSIASTS

The Original ACE Monthly Newsletter

November 1987

3662 VINE MAPLE DRIVE, EUGENE, OR 97405

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Buddy Hammerton -- Production Director

In this issue of the Original A.C.E. Newsletter:

IMG Scan

BiLog

Networking on the ST

MORE! Graphics



A month late with the picture, but an IMG Scan image just the same

News and Reviews



The December ACE meeting will be our annual swap meet, so bring anything you might want to sell. This year, through the generosity of the now closed Computer Palace, we have many items to raffle away, from printers to software, mostly for 8-bit Ataris. We will sell tickets for \$5 each; everyone will win and get much more than their money's worth. So all come to the Amazon Center, 7:30 PM, Wed., Dec 9th.

The big news this month is about the *Mega ST* and *WordPerfect ST*. Atari is shipping the *Mega ST*'s we hear. Only certain dealers will be eligible to sell them, and there will be no discounting. Some have already been shipped to Canada, and some in the U.S., although I heard that the U.S. shipments have been stopped for reasons unknown. They have the blitter chip installed, I understand. The latest issue of *Current Notes* has two articles about these new computers -- because there is interest among you about it and because it will probably be a long time before we get one locally, we will be reprinting their articles in this issue. I apologize to those of you who are members of both clubs, but the rest of you will probably be interested. Incidentally, we understand Atari has really clamped down on mail-order discounters to help support the local dealers, so be careful before sending any money to mail order places.

WordPerfect ST, said to be the most powerful word processor available for any computer, and the best selling one for the IBM-PC is finally out for the Atari ST -- for \$395. This wordprocessor does everything and is supposed to be better than the IBM version, with full GEM and mouse support. If you are a full time student, you can get one for only \$99 directly from WordPerfect; I understand you need to get a special form and a copy of your student ID and send it in, they then send you a complete *WordPerfect ST* package with 5 disks.

Through the very able efforts of Brad Thompson, our new sysop, many new 8 and 16 bit programs added, and is again running smoothly -- thanks Brad for the many hours of work you have spent on this. Nora and Dick Young have also put together a number of new disks for the library, and are reorganizing the ST library -- if you have ordered a 16-bit list lately, it has been delayed because of the reorganization.

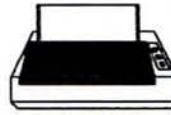
--Mike Dunn, A.C.E. Co-Editor

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Bumpas' Reviews



IMG SCAN -- I scanned a picture of some witches this month with the \$99 *IMG Scan*. If it's on the cover you can see how it looks loaded into Publishing Partner and put into a document. I think it came out pretty good (better than I can draw, anyway!).

PHANTASIE III -- I've discovered another improvement in *Phantasie III* (\$40, SSI) over the play in *Phantasie I* and *Phantasie II*. Formerly, characters could not attain a level of expertise higher than level 15. Well, I just got a Level 16 Thief. I wonder if there's any limit to the levels which might be achieved. Let me know the highest level your characters achieve. My party includes: 19 -- Human Thief; 18 -- Human Wizard; 18 -- Dwarf Fighter; and three level 17 Elf Rangers. I've found my way into the middle of Nikademus' dark castle and defeated him, but I never did learn Spell #57 to summon Lord Wood.

Rings of Zilfin (\$40, SSI) is a 3-disk introductory to intermediate level graphic adventure game. The keyboard must be used for some things (typing in words when conversing with characters). But the mouse may be used for most keyboard commands.

The graphics are well-drawn. The game is played on a large map depicting three countries and more than three dozen towns, villages and castles. Your character can carry up to 99 of each commodity in the game. And its endurance and fatigue reservoir can contain up to 9000 points. Your quest is to find the Rings of Zilfin and defeat Dragos.

You will need to keep a good map to find your way around most efficiently. And you'll need to keep notes of the names of all characters you meet and what they tell you. You'll fight numerous monsters and religious fanatics; but your sword-fighting skill will improve along with your strength and magical abilities.

One thing I don't like about the game: When I got killed, I couldn't just restart the game. I found I had to reboot the game all over again. As often as I get killed, this is a bit of a pain. The ability to save a game in progress is very easy, but for some reason the documentation I have didn't inform me how to do it. When you're character's not walking down the road, a click of the right mouse button will toggle on the save game facility.

A Hint: Night Birds come after you when you're resting at night (about 1/3 of the time). If your bow is broken, or you're out of arrows, or you just don't want to fight them (I've found no benefit to be gained from the fight; they just take up arrows, break your bows, and cause you the

loss of endurance points) you can still prevent them from hurting you. It's a glitch in the program, but I use it. I just hold down the "F" key (for "Flee"). This brings the birds nearly to a halt. Daylight comes before they can hurt you. All you lose is some fatigue points from staying up all night. But you might have to stay up all night fighting the damn birds, anyway!

ROADWAR EUROPA (SSI, \$40) is the next episode in the Roadwar series. If you're Mad Max, or you played *Roadwar 2000*, you know what I mean. This game assumes you've already saved the US from the terrible epidemic in *Roadwar 2000*. Now the U.N.O. has called upon you to save Europe from terrorism.

The terrorists have planted nuclear devices all over Europe from the United Kingdom to the Urals, from Scandinavia to Turkey (including all of asiatic Turkey!). Your task is to find these devices and disarm them. You also need to find the terrorist base and fight them to the death.

The play is very much like that in *Roadwar 2000*. The map is a beautifully scrolling map of Europe -- and it's VERY large. In *Roadwar EUROPA* you get to begin by designing, equipping and staffing your party of vehicles. The manual advises you to always have as many vehicles as possible. And I've read other reviews advising players to use their maximum number of vehicles. I disagreed with this advice in *Roadwar 2000*, and I continue to insist it's bad advice here. My advice is to get the biggest and best truck (a semi-trailer) and staff it with the best crew, armed to the teeth. Except for the terrorist base, I never had to fight more than 3 enemy vehicles. When you have more vehicles, you always meet more enemy vehicles.

As you travel around Europe, you'll find clues and secret agents to help you. At one point, you'll find a radio which will help you make contact with an undercover agent. You'll find a password you'll need to talk to him. A review isn't usually the place for play hints, but in this case I think it's warranted. You only have a limited time in which to find the bombs before they begin detonating. So, direct your searches from central areas and radiate out in each direction. If you fight out your battles tactically (especially against the terrorist base), try not to engage too quickly. And when you do engage, try to arrange it so only one or two of their vehicles can shoot at you. When I fought the terrorist base, I actually only had to shoot at 2 of their 15 vehicles. The rest all crashed into each other, or into buildings. I got them going so fast around the town chasing me that they reached speeds beyond which their maneuverability could take. Many times you'll find an enemy vehicle will be unable to avoid an obstacle and will crash. Some obstacles you'll find you can crash through without damage at 30 mph and will crash you at higher speeds. I

went through a picket fence at 150 mph and disintegrated! At 30 mph, I went through ok.

There are all kinds of circumstances and places where your party will gain power and characteristics.

Unfortunately, I built my vehicle up to its maximum at start, so none of these things helped me much. Perhaps if some combats or other disasters could cause permanent damage, these features might be more meaningful for an experienced player.

I had more fun playing *Roadwar EUROPA* than I did *Roadwar 2000* because I liked the former game and enjoyed seeing a sequel, and because I knew better what to do this time. It also took me less time to complete the game this time (I did it in one afternoon). This is an excellent game to introduce players to strategic-type adventure games.



MORE! GRAPHICS -- The Pierstorff Co. (353 West Main, suite K, Woodland, CA 95695) has created a disk full of clip art (two products: one for the ST, one for the 8-bits). **MORE! GRAPHICS** for the ST contains a disk full of clip art files for Printmaster and in *DEGAS*

format for use in desktop publishing or drawing.

The clip art is very well designed and drawn with very high resolution. It looks nearly photographic on a monochrome monitor. They are larger than most clip art I've seen and this contributes to their clarity. If you need them smaller, you can always size them (the ones in the *DEGAS* files, anyway) when you put them into your document.

I believe The Pierstorff Co. might have a problem with their duplicating system. I received three disks from them in my attempt to get a good one. Even so, I was not able to recover all the files on any one disk. I tried using three different disk drives on three different STs (two 1040s and one 520). The *GRAPHICS.SBR Printmaster* file could not be recovered from any of the three disks I had. All the others were recovered from one or more of the disks. I'm sending this review to the company, so if they do define the problem, they can correct it before you order your copy.

The product is definitely worth ordering. The clip art is very good and will enhance documents you will produce. One unusual file of art included is the alphabet drawn in those large letters you might find (with flowers and vines entwined around them) at the start of paragraphs in reproductions of medieval texts or other books which use the technique. I've used these and they give a very nice effect when you want it.

They provide a printout showing the graphics on the disk. I was unable to find a couple of the items depicted on the disk(s) I had. But maybe this was due to the fact I could not recover all the files on the disk.

--Jim Bumpas, A.C.E. Co-Editor

Multi-Tasking For The ST?

(reprint: LACC, October, 1987)

Multi-tasking has been near the top of the "Things we wish our ST had" list for quite a long time. My suspicion is that the hue and cry was generated solely by bored Amiga owners who didn't have anything better to do than gloat over their machine's odd and spectacularly useless operating system. Naturally, we fell for it. Now with the recent introduction of products which deliver this capability to the ST, multi-tasking is in the headlines even more. However, a lot of Atarians are still in the dark as to just what multi-tasking is and what it isn't. I will attempt to explain it in laymen's terms.

The obvious image presented by multi-tasking is the ability to run two or more programs simultaneously. This is a rather extensive form of multi-tasking, but it is still what most people think of when asked. There are simpler forms which are written into programs too, such as a telecommunications package allowing you to do other things while the program sends or receives a file over the wire. Such smaller arrangements can be extremely useful, as well as make the process of waiting a little more productive.

**"keep in mind . . .
multi-taking is . . .
an illusion"**

So what of full-fledged multi-tasking? To create a situation where two different programs of any sort can run side-by-side is a lot more complex. The routine to keep things running has to deal with a ton of circumstances. Still, in either example, multi-tasking is achieved in the same basic fashion.

The most important thing to keep in mind about multi-tasking is that it is an illusion. A microprocessor cannot do more than one thing at a time. When running a program, which you know to be a long list of small operations, the microprocessor is fed these operations one at a time in order. If the programmer did a good job the intended result will occur. To run two programs, more or less at the same time, the flow of operations must be altered. The "attention" of the microprocessor must be alternated back and forth between the two separate

programs. Each time a program's turn comes up, the microprocessor does a preset amount of work before moving on to the next program.

There are two methods I know about for generating the multi-tasking illusion. The first method operates on a strict time basis. This is to say that the time spent on each application is basically constant (defined by the programmer) and structured. So the microprocessor spends 'x' time doing operations for program 'A' and then do 'x' time doing operations for program 'B', then back to 'A' again.

The other method involves "free time". This is where the user is doing things on one program and there is another program running in the background, like the telecommunications program example. The background program is served whenever the microprocessor doesn't have to work on the foreground program (such as when a user entry is required -- while the user is thinking, the microprocessor can go work on the background program instead of just waiting).

How successful multi-tasking is on a computer is hinged on two issues: Speed and memory. Of course, without enough memory to hold the two programs you wish to multi-task, you can't do it (major Amiga failing). The more significant factor is speed. The ST is a pretty fast PC, but if you are running two separate programs and spending an equal amount of processor time on each, you essentially cut the speed in half. This applies to the second method as well (this is easier for you to figure out than for me to explain). This speed is limited further when dealing with graphics routines, as they take even longer. Frankly, I think full-fledged multi-tasking is best left to the larger computers where speed is no object. However, smaller applications, such as the telecommunications package are realistic and useful. I'd like to see more of them around.

-- unsigned

ST's At Work



We use a combination of systems in our office. We have a Jacquard mini computer, 11 Atari STs (monochrome) and IBM clones (AT&Ts & ASTs). It all started in 1977 when the firm was launched. I wanted a shared or distributive logic system -- a centralized CPU/hard drive supporting dumb terminals and capable of multitasking. I selected Jacquard, then a division of AMI, over Wang as it offered better price/performance.

The CPU and a few terminals were placed in the Data Processing Room (DPR). The other terminals were dedicated to our secretaries on the basis of one terminal for two secretaries. The printers, located in the DPR,

were a high-speed TI dot matrix for drafting and two Diablo daisies for final product. All software and data was stored on a Pertec 48MB/removable cartridge hard disk.

From our 8 terminals our staff simultaneously performed word processing, database, communication and accounting functions. In addition, telephone and duplication data was automatically collected in the background (the CPU has 8 serial ports) for subsequent use by the billing software.

The Jacquard was a good system which was far more cost effective than the stand-alone word processors of the time. Sure the price was steep by today's standards (the Pertec hard disk cost almost \$24,000 and each Diablo about \$3,500) but today's micros didn't exist in 1977. However, for a spate of reasons ranging from the cost of maintenance to the absence of off-shelf software, the Jacquard could not meet our growing needs.

Today, the Jacquard is still being used for all accounting and billing purposes. But all other functions are performed on micros. Although word processing is still our mainstay, we extensively use spreadsheets, databases, graphics and other speciality programs. Applications include internal financial analysis, presentation graphics, litigation support, litigation budgeting with risk/reward analysis and docket control.

To perform these functions we have acquired 11 STs (six 1040s and five 520s with 720k drives) and five IBM clones, each with 20MB-40MB hard drives. This is the distribution:

DPR has two IBM clones additionally equipped with 720k floppies, and one 1040 ST with an Astra hard drive. By the way, other than being slow (85 sec), the Astra has performed flawlessly including its handy, built-in 720k floppy.

Each pair of secretaries share an IBM clone additionally equipped with a 720k floppy. An Epson LQ800 dot matrix printer is attached.

Each paralegal has an ST and an Epson LQ800. All lawyers (with three exceptions) have STs. Two lawyers have IBM clones.

The STs are used by the attorneys and paralegals primarily for word processing. The paralegals, more than the lawyers, also use the STs for spreadsheets and small databases. We might consider using the ST with the Astra for a big database project but we have yet to see a sophisticated ST database (*Dbman* is a curse). We have experimented with a demo of *Superbase Personal*, which looks impressive, but hesitate to invest in the absence of a full review. Until then the major tasks will continue to be performed on the IBM clones with their superior software and large hard drives.

As you can see the STs were acquired primarily for word processing input by lawyers. They were selected over IBM clones as the learning curve on a graphic-interface machine is but a fraction of that on a command-line machine (you know lawyers). They were selected over Macintosh because they offer almost twice the value. However, unless inexpensive hard drives and better software becomes available, even the expandable Mega may not prevent these assumptions from being questioned by 1990.

Word processing with the ST-IBM equipment has proven to be quite elegant. However, unless our lawyer or paralegal desires the document to be finalized and printed from the ST in the DPR, it is processed as an ST-IBM document. This process is a little tricky, so I've provided some detail:

1. Micro floppy disks are formatted in the ST for 720k (double sided). That's normal.

1.1 Software is added as needed to program disks; e.g., *Word Writer*.

1.2 The remaining disks are used as data disks. But first they must be "treated" by an Atari public domain program so the IBM clones can read ST disks (the ST can already read IBM disks). There are two such utilities of which I'm aware: *DISKMOD.TOS* and *IBMFRMT.TOS*.

2. The attorney or paralegal produces a document using uncommon keyboard ASCII characters in lieu of the program's commands for bold, underline and italic. For example, we use # before and after any bold text; a ^ before and after underlined text; a ~ before and after any italic text. The document is saved to ASCII on the data disk which is given ("walknet") to the secretary.

3. The secretary inserts the data disk into the 720k drive of the IBM clone and boots *Word Perfect* (Rel 4.2). The file is loaded and a *Word Perfect* macro we wrote is run which converts the ASCII symbols into the equivalent *Word Perfect* code and realigns the margins.

Thus, in a few seconds we have a *Word Perfect* document -- just as though it was produced in *Word Perfect*. At this point the document is finalized per instructions (spell checking, etc.), and printed on the LQ800 or given to DPR for higher quality output. The document is stored on the IBM's hard drive and the data disk is returned to the lawyer or paralegal.

That's all there is to it! If *Word Perfect's* ST version is code compatible with its IBM version then the above in lieu codes and macros will be obviated. It doesn't much matter, however, as the above process is so automated as to be functionally transparent.

What's in the future? By next Spring the IBM clones will be connected by some "net". But any linking of the STs with the IBM clones for E-Mail will depend upon

the existence of a quality and inexpensive interface. We'll see.

-- Warren I. Wolfe, Los Angeles, CA

[Editor's note: For around \$200 (according to the ads, I haven't seen one working myself) one can buy an interface with which to connect any generic hard drive to an ST, making them as cheap as they are for any micro. An IBM network providing E-Mail capability could be used by STs, also. One IBM (or ST) will have to be the "server" device, running the E-Mail (BBS) software. The ST's RS232 port should be able to connect into the network interface the same as any IBM. Networking interfaces for the ST might use the DMA port or the MIDI port. If the IBMs were to use these, the interface will need RS232 ports for the IBMs. These micro networks so far only provide the ability to share peripherals (hard drives, printers, etc.) and to use E-Mail (if one system is dedicated to running the BBS software).]

THE ATARI MEGA ST4 FROM CURRENT NOTES First Impressions

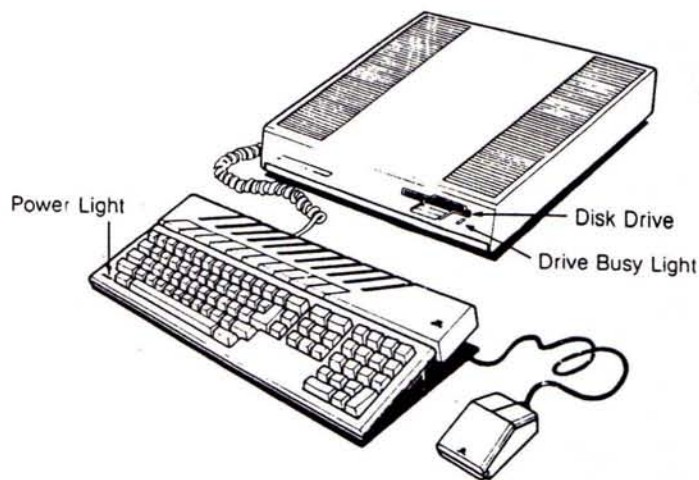
[Believe it or not, the MEGA ST (blitter chip and all) is a reality! In fact, this issue of CURRENT NOTES is being produced on a MEGA ST4. Several CN readers are Atari developers who have taken advantage of Atari's offer to provide the new MEGAs to developers before they arrive in the stores. Jwahr Bammi and Andy Nicola teamed up to take a close look at Andy's new MEGA. Bruce Noonan, of ST Writer fame, also gives us his impressions of the new MEGA. Their reports follow. Your CN editors will have a bit more experience with the MEGAs by next month and we will give you our impressions then. - JW]

A LOOK INSIDE AND OUT

by Jwahr R. Bammi and Andy Nicola

Since its announcement last January, the MEGA ST4 computer has been somewhat of an awesome myth among Atari enthusiasts, especially those of us who live within the continental U.S. At the same time we all have had time to reflect on what might be done with such power (4 Megs of RAM on-board!) and what exactly are the capabilities and limits of this machine. This report will attempt to present a first hand overview from a users perspective of the machine along with some definitions and insights.

The unit arrived nicely bundled in a retail store pack, not unlike the same carton which packaged the 1040ST. The MEGA unit is noticeably heavier though. The new users manual is extremely well laid out compared to previous attempts by Atari, and along with the BASIC Language disk was an advanced programmers reference guide only. Is Atari trying to tell us something here?



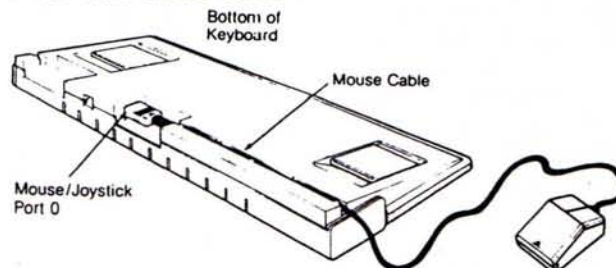
The machine itself consists of basically three pieces: the CPU box, the keyboard and the connecting cable. Assembling the unit took only a minute and only a monitor and external drive (if needed) required any thought for placement. Placing the monitor on top of the CPU box is acceptable and either color or monochrome are easily accommodated.

This unit originally came without the blitter chip, but since then the blitter has arrived and been installed. More on this later.

A First Look Outside

The first thing one notices about the CPU box is that a small hook-like extension protrudes from one of the rear casing vents on the top near the rear of the unit. Opening this small door reveals a compartment for two AA batteries which will maintain time for the built-in clock. Operating the unit without these batteries is okay, but your files will not be accurately updated with the correct time and date stamp.

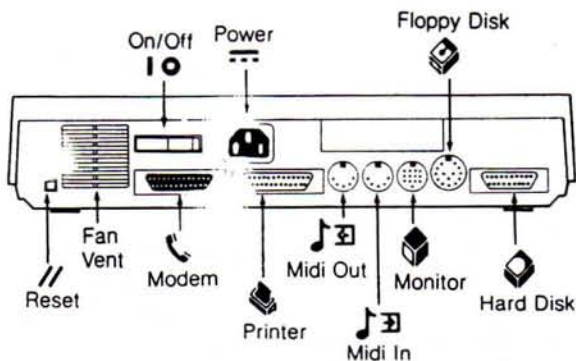
Next comes the insertion and placement of the mouse. Under the keyboard, behind the F5 key there is a left-to-right horizontal configuration for placing the mouse out to the right, and a joystick out the left. The attached wires are to be buried in a neatly placed groove under the keyboard, serving a two-fold purpose: keeping the desktop much neater than before and taking up some of that awful slack.



Placement of the CPU box and proximity of the detachable keyboard will be a prime consideration

for many people. Atarians are not used to this kind of special treatment unless they are already spoiled by another environment. With this in mind, it must be noted that the footprint of the machine is about equal to 2 1040ST's, back-to-front, but only the keyboard itself is as wide.

The CPU box comes with an Atari standard double-sided drive built-in. Access to the drive is from the front of the unit and if the unit is directly in front of you, this can take some getting used to. The keyboard connecting cable plugs into the left side of the CPU box a little more than half way back, in a recess in the case where the cartridge slot is also located. All other standard ST plug-ins are along the rear of the casing and they seem to be better organized for peripheral placement than on previous units.



The keyboard may be placed on the desktop in one of two configurations. Out of the box it lays flat and may be preferred by some. For those of us who are a little lazy in our reach, there are 2 flip-up extension flaps which raise the rear of the keyboard 5/8". The keys themselves have a much firmer feel on the downstroke

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Presidential Address

The past few months have brought many interesting articles from a wide range of viewpoints. The main topics among ATARI enthusiasts these days seems to be the questions of the viability of the ST and the 8-bit ATARI computer systems. Having been involved deeply in the ATARI world over the years, I have developed a few opinions of my own, and my sense of self being what it is, I now propose to share some of my presumed insights with you.

The 8-bit ATARI machines: are they dead or not?

Let's look at this with a somewhat wider view of history if we can. I have spent many years dealing with a

number of brands of computers. Some have been great designs, while others have represented incredible lack of engineering vision. Let's look at the early history of the "personal computer". The first computer useable and affordable by the average American was the APPLE. IBM looked at the idea and sniffed down the length of their corporate noses, declaring that only MAINFRAME and MINI computers were of any earthly value, and that "personal computers" were merely toys. Within a few years there were several computers on the market that took the APPLE idea and applied a little engineering imagination to the basic idea. Foremost among these, from the standpoint of technological sophistication and futuristic design, was the ATARI 800.

Where the APPLE computers continued for years performing virtually ALL operations with the 6502 processor working without assistance, ATARI provided (on an 8-bit scale) co-processors that took a lot of the work load off of the processor, thus allowing relatively sophisticated graphics, better overall processing speed, better sound, and MUCH easier programming. When I purchased my 800 (back in 79 or 80) I first spent a LARGE amount of time researching the possibilities. My reason for buying a computer was that I was studying programming in college, and needed a unit at home to help develop and sharpen my skills. I looked at the APPLE, PET, and ATARI computers. By far the biggest bang for my limited bucks, and the computer that I considered from a technical standpoint to have the best growth path, was the ATARI. I stand behind my decision, and believe that (except for the incredibly INEPT and FOOLISH marketing decisions made by WARNER COMMUNICATIONS) ATARI could have been a MAJOR force in the computer world. Still could be. (by the way, I still own my ORIGINAL 800 and the ORIGINAL 810 disk drive, which my children have appropriated for their own use. One of my 800XL computers has been in 24-hour use on the ACE BBS, with 384K RAM, for about 18 months. THAT's RELIABILITY!!

Now, ATARI is seen to be lacking in enthusiastic support of the good old 8-bit machines. It seems that the rules of money have once again gotten in the way of a wonderful piece of equipment. Part of this, though, has to be laid on the heads of ATARI users throughout the United States if not the world. The law of supply and demand will overshadow any other considerations in the decisions of any company that wants to stay in business. While I was Director of Technical Support at MICROBITS (MPP), I was heavily involved in what we call INDUSTRIAL RELATIONS. Those of us producing goodies for the ATARI computers kept in touch, sharing ideas and generally trying NOT to step on each other's toes. What I learned there is that the hardware can be developed and marketed with quite reasonable mark-ups

and tremendous volumes, but that software will not necessarily follow these rules.

I wish I had access to the files of the LUCASFILM people after the BALLBLAZER/RESCUE ON FRACTALUS debacle. This is the best example I can think of to illustrate the reason for the "DEATH" of the 8-bit machines. LUCASFILM spent TONS of money developing those programs, and left a single sample of each at ATARI for what was supposed to be a carefully controlled evaluation. Within several weeks copies were on virtually every BBS in the ATARI domain, and the compound word LAWSUIT was heard repeatedly. Did LUCASFILM ever make a single dime off of the ATARI computer systems? Early in the game a lot of software companies made good money, but that soon broke down and by mid-84 or so the potential income from software for the 8-bit machines had dwindled significantly. In fact, one of my bigger mistakes in the past several years was to invest heavily in developing a software package for the 8-bit machines. I expect to have the cost of that adventure paid off in another year or two. Meanwhile, the program I went deeply into debt to develop was polished by our incredibly talented former sysop, Ralph Walden, and is now essentially freeware, sold for just enough to cover the cost of the media and shipping. And another developer of software for the ATARI 8-bit machines wanders down the road looking for somewhat more rewarding financial pastures.

IF the 8-bit machines are "dead" as so many claim (and which I am not yet ready to concede) then, as POGO said many years ago "we has met the enemy, and they is us".

The real question in my mind is whether we will deal more intelligently with the fantastic ST machines. I should mention that my current career is as Technical Director for a company that builds, markets, and services IBM PC CLONES as well as IBM minicomputers. Having an INTIMATE knowledge of the hardware of both the ATARI ST and the IBM-clone machines, I think that I can say with authority that the ST is by far the superior piece of equipment. I have 3 computers at home: my old reliable 8-bit, my hopped up early model ST, and my Turbo PC-compatible hopped up system with 20-meg hard disk drive. Would you care to guess which one I use for my personal business, as well as a large portion of my official work?

The IBM-compatible AT computers use the INTEL 80286 processor. Not a bad machine, but let's be honest here: Intel lost so much business to NEC, who produced BETTER VERSIONS of Intel chips that they SUED their rival NEC to try to stop the loss of business. A comparison of the 80286 and the Motorola 68000 will reveal that they are approximate equals in the areas of

speed, power, and data path width. While the basic philosophy behind each chip is unique, the raw power of the two is close to equal. Looking at each of these machines from the technical standpoint again, the ST is the logical and spiritual extension of the ATARI 800 design philosophy: give the processor PLENTY of supporting co-processors. The design of the ST uses very powerful and flexible processors to share the load of the 68000. The graphics are DESIGNED IN, as are the sound capabilities and the interfaces to the real world. The IBM-compatible machines are still using the separate circuit board for the graphics, and each interface requires its own board or one VERY expensive board to provide multiple real-world interfaces. The truth is, the IBM-compatible is a DINOSAUR of a design. In fact, a COLOR ST (at, what, \$800.00?) gives you essentially the same resolution as the EGA (Enhanced Graphic Adaptor) standard provides for the IBM-compatibles. The EGA card and monitor for the BigBlue-type machines normally runs about \$800 to \$1400 depending on the quality of monitor you are willing to put up with.

There is no doubt in my mind that the ST is the superior piece of equipment. The question of its long-term survival, if not the larger issue of its ability to foster positive changes in the computer industry, rests on 2 groups of people: Atari Computer Enthusiasts, and ATARI. Let's talk about our part in this first.

Software will only be developed and marketed IF there is a market for it. This means that a lot of us have to go out and BUY something that we want in order to encourage the people who made the thing to make more things that we want. How simple could it get? This does NOT mean that we need to rush out and buy badly written software at exorbitant prices. If we do that we damage ourselves and the industry. It DOES mean that we need to BUY the programs that we are using, unless they are legitimately in the Public Domain. Unless we are willing to do this, we can look forward to the demise of yet another fantastic computer system.

The other group which has the major portion of control over the viability of the ST is ATARI. At our council meetings each month I hear a lot of news/rumors-/biting & moaning about ATARI. Indeed, I have wondered at some of the decisions made by ATARI in the past year. But I will be the first to admit that I have very little of the information that ATARI is using to make their marketing decisions. For all I know, they may have already decided that the American market is un-profitable, and that they are better off spending their resources in countries where the name ATARI is an industry leader and very profitable. Germany and Great Britain are examples of places where the users are SUPPORTING the machines. Financial realities demand

that the support and focus of the company be turned toward a market-place where the market will support the company. I don't know how many ST systems are installed in the US, but it is a significant number. Support from 3rd party vendors here has been somewhat slackjawed, but then we brought that on ourselves. I believe that if every ST owner went out in the next 30 days and BOUGHT ONE PROGRAM, even a cheap one, the vendors would sit up and take note. That is what I plan to do, and I would encourage the rest of you to do the same.

-- Kirt Stockwell, A.C.E. President

A MEGA ST4 HANDS-ON REVIEW

FROM CURRENT NOTES

by Bruce D. Noonan, M.D.

OK, you're probably asking how did this guy get ahold of a MEGA ST4? As an Atari developer, I found that I was entitled to one of the first production models of this fantastic computer, including a blitter chip, for a substantial savings. I won't mention how much, as this was without a monitor, but I understand the retail should be near \$2600. Still, when compared to the thousand dollar per megabyte standard, even at this price Atari fares much better than the competition.

The computer is sleekly styled, with all the brains in a square unit 13" x 13" by 2 3/4" high. The "box" contains a double-sided floppy drive on the right front, and the cartridge port on the left rear. The coiled keyboard cord plugs in next to the cartridge port. All the ports except for mouse and joystick ports are located on the main unit. The joystick and mouse ports are located in the keyboard rear, with "tunnels" for the cords to each end. The main unit contains a fan which seems substantially quieter than my 20 meg Supra Drive. A small removable plastic insert is part of the posterior wall of the main unit, which has an expansion slot inside. The case is reinforced with nine internal supports allowing placement of the monitor on its top. There is also a compartment for installation of two AA batteries for the internal clock.

I am impressed with the lack of power-supply cords and the ease of placing the keyboard on my lap, for example. There are two foldable supports under the keyboard which allow it to be propped up to a better typing angle. I LOVE the keyboard! The keys are much more responsive, less mushy than the 520, and reminiscent of my old Atari 800.

When my MEGA arrived, it did NOT have the blitter in it. Apparently, each of the chips was undergoing individual testing. However, 13 days later the blitter arrived with two xeroxed blurry

diagrams of the case interior, and arrows pointing to two pads which needed cutting and the socket for the blitter was indicated. I rushed to put the square blitter chip in the socket, but was apparently unable to cut the solder on the pads completely with my x-acto knife. I say apparently, because when I reassembled the case, the ST refused to boot! Sinking feeling in my stomach, sweaty palms. I'm a software hacker, and hardware and electricity are like magic as far as I'm concerned.

Trying to maintain my cool, I bundled up the scattered parts — case cover, base, circuit board, RF shield, keyboard and power cord, and headed for the local computer store with a plea for them to stay open and suck some solder for me. It was done at no charge. (Thanks, Family Computer of Lynnwood!) And best of all, there now was an indication at the bottom of the Options menu of "Blitter". Whewwww! The possibility of frying a 520 is one thing. But a multi-thousand dollar chip barbeque was not my idea of fun.

I was anxious to try out some of my favorite software to test compatibility. Unfortunately, the first one I tried was *K-Switch* from Kuma. It seemed to boot okay but when I tried shifting from one half of ram to the other by pressing both Shift keys with the Alternate key, nothing happened. Speaking with Atari about this, I was told that Kuma used all sorts of devious means in programming which is not supported by the new ROMs. As expected, one of my other favorite programs, *Mousetrap*, also failed to work, as they poked three undocumented locations for mouse next to the cartridge port. All the ports except for mouse and joystick ports are located on the main unit. The joystick and mouse ports are located in the keyboard rear, with "tunnels" for the cords to each end. The main unit contains a fan which seems substantially quieter than my 20 meg Supra Drive. A small removable plastic insert is part of the posterior wall of the main unit, which has an expansion slot inside. The case is reinforced with nine internal supports allowing placement of the monitor on its top. There is also a compartment for installation of two AA batteries for the internal clock.

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I also experienced problems with stopping a GFA Basic program by pressing Control-Shift and Alternate at the same time. It doesn't work. However, the compiler, editor and programs run otherwise without a hitch.

I had an old copy of *Regent Spell* with TOS.IMG on it. When I deleted the file to get more room for adding dictionary words, it ran fine on my 520ST. But the boot sector apparently gave fits to the MEGA. As you know, only the directory entry is removed when a file is deleted. The file still is on the disk. Anyway, I kept getting bombs if I tried to boot with the disk. If I booted with another disk, *Regent Spell* worked just fine.

I played around loading some foreign TOS's. It seemed to take a very long time before the desktop appeared. This is due to the OS zeroing out all of memory one byte at a time after loading the TOS from disk.

So far, I have created some truly LARGE RAM-disks using Compute!'s recoverable *RAMdisk*. Michtron's *MDISK* only allows 820K maximum. *MEGA-*

max and *Alcyon C* compilers work as usual. I did have problems with the automatic *RAMdisk* on the *ST TALK* disk. I could download into it and copy out of it, but then the directory became scrambled and the OS failed to recognize it being present.

Other programs running well are *Flight Simulator II* (no, the blitter didn't seem to speed it up), *Leaderboard*, *Laser Chess*, *Monopoly* (some speed up with the blitter 'on'), *Athena II*, *Psion Chess*, *Chessmaster 2000*, *Publishing Partner*, *Star Glider*, *Bridge 5.0*, and of course, *ST Writer 2.0*, which allows formatting of disks in the fast format with the new ROMs.

Cornerman had some problems. It would not install and boot-up failed if the *DESKTOP.INF* file was saved with Blitter 'on'. If the blitter was turned on AFTER boot-up, all seemed to work as usual.

I'm really looking forward to what this new machine will be capable of. Especially animations using a large *RAMdisk* to hold sequential picture files, and large document files. Atari has finally produced a very solid business machine with the MEGAs. I am interested to know if *pc-ditto* runs on the MEGA. I plan to try it in the near future. I'll let you know. [Bruce did try it. It didn't work. However, according to Atari, the problems have been identified and a patch will be released so *pc-ditto* will work. JW!]

and is probably the best 'feeling' keyboard Atari has ever produced, just inching past the feel of my old 1200XL! The layout of the keys is the same as previous ST units including the function keys and numeric keypad. The 45 degree to the right grooves in the casing have been replaced with hash marks equally spaced the same width as the function keys. For those individuals who like to have the keyboard in their lap, never fear; the connecting cable is of sufficient length and strength to accommodate you comfortably. Don't get too laid back, though, or you will be picking up your mouse off the floor. After the first or second time you ought to be cured.

A First Look Inside

Opening the unit for the first time was very exhilarating as I could not wait to see all the goodies we all had heard about for so long. After removing the casing and the shield, and carefully detaching the wires to the clock batteries, there it was! An almost perfectly square motherboard which had been completely redesigned for efficiency. All the components looked well placed and natural. The photographs of this board that have previously been published in various magazines do not do it justice, nor do they reveal some of the hidden hardware enhancements Atari didn't tell anyone about!

- * First off, there are holes drilled in various places on the motherboard which indicate that another drive could easily be fitted into the case (there is plenty of room under the shield).
- * Second, there is a 22-pin bus that is hardwired to the DMA port on the motherboard that Atari didn't even know existed until they received the units from the final assembly point. What could one do with such a bus you might ask? Well, for starters, how about the direct connect of other DMA devices, such as hard drives and laser printers, without the need for daisy-chaining.
- * At the junction on the board where the power supply plugs in, there is an extra plug-in for another powered unit!? What could possibly go here? The first thought that came to my mind was (a drum roll, please) a hard card!! There is plenty of room under the shield, the 22-pin bus is open, and a source of power...so, a low voltage, single-slot, half-height 20Meg or 40Meg hard card would be ideal!!
- * The promised expansion bus is present in all its glory, and there is a removable cutout in the back of the CPU box casing for annexing external devices.
- * Inside the right rear of the case is a small fan. It is extremely quiet and pulls air in through small vents on the top right of the case above the disk drive. This is the first time a fan has appeared in an Atari computer.
- * The new TOS ROMS are, of course, included and will be discussed shortly.
- * One meg RAM chips are standard in this unit and all other components are the same as previous models with the exception of the blitter and clock chips.

The blitter chip was a little tricky to install. Apparently Atari knew that some units would be shipped without blitters, but the original blueprint of the motherboard does not call for this omission. Two pads (jumpers) on the motherboard had to be removed before the blitter could be installed. It is necessary to insure that all solder is removed and a zero continuity check be made across these pads before powering up the unit. [Note: this information is given only for those individuals who received similar units, developers, etc. The standard release production models that will be at your Atari dealer will not require the buyer/end-user to perform this work.]

On the Surface

Many features of the GEM desktop are the same, but some have been enhanced tremendously by

the new TOS ROMS. Specifically, a dialog box now appears to ask for confirmation of saving the desktop configuration with a default of 'YES'. All double clicking on files other than executables will default to the 'SHOW' function and spurious problems that sometimes occur with disk reads default to 'RETRY'. Foreign language documents with international characters now allow all characters to be viewed fully on the screen.

Open windows with more than a window full of files now allow smooth scrolling on the arrow pointers or the slider bars just by holding down the left mouse button. Changing the names of icons now allows for lower case letters to be used rather than being forced into an upper case mode. Under the OPTIONS drop down window there is an extra slot for acknowledgement of the blitter. A check mark indicates that the blitter is in an access mode. Clicking on this will turn the blitter off as indicated by the missing check mark.



Launching applications is much quicker than before and TOS text scrolling is greatly enhanced. A much larger buffer space is utilized for the copying of files which reduces the number of disk swaps for floppy only users. In fact, most programs manipulated during file management will transfer in one pass. This has to be a boon to single disk drive owners.

The overall performance of the unit was more than expected, but there were a few minor quirks. The placement of the power switch near the right rear of the CPU box made it extremely difficult for a right-handed user to get at without actually standing and reaching for it. Being right-handed, I cannot imagine the contortions a left-handed person might go through. The same limitation exists for the mouse placement. If a left-handed user runs the mouse cord under the keyboard for easy access, he must also elevate the keyboard so that it doesn't 'roll' on the desktop. These are minor considerations, but considerations just the same.

A Second Look Outside

We found the aesthetics of the system as a whole much more pleasing than anything previously from Atari and concurred that the styling and comfort were to become major considerations for many buyers. There is a consistency here that says, First look at me, then, watch me fly!.

Atari Computer Enthusiasts

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